

2010 CALGreen Non-Residential Mandatory Measures Checklist

January 3, 2010

Feature or Measure	Required
SITE DEVELOPMENT (5.106)	
<p>Bicycle parking and changing rooms. Comply with Sections 5.106.4.1 and 5.106.4.2; or meet local ordinance, whichever is stricter.</p> <p>Short-term bicycle parking. If the project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of visitor motorized vehicle parking capacity, with a minimum of one two-bike capacity rack.</p> <p>Long-term bicycle parking. For buildings with over 10 tenant-occupants, provide secure bicycle parking for 5% of tenant-occupied motorized vehicle parking capacity, with a minimum of one space.</p>	
<p>Designated parking. Provide designated parking for any combination of low-emitting, fuel efficient, and carpool/van pool vehicles as shown on Table 5.106.6.2.</p>	
<p>Light pollution reduction. Comply with lighting power requirements in the California Energy Code and design interior and exterior lighting such that zero direct-beam illumination leaves the building site. Meet or exceed exterior light levels and uniformity ratios for lighting zones 1-4 as defined in Chapter 10 of the California Administrative Code, using the following strategies:</p> <ol style="list-style-type: none"> 1. Shield all exterior luminaries or use cutoff luminaries. 2. Contain interior lighting within each source. 3. Allow no more than .01 horizontal fc 15 ft. beyond the site. 4. Contain all exterior lighting within property boundaries. <p>Exception: See Part 2, Chapter 12, Section 1205.6 for campus lighting requirements for parking facilities and walkways.</p>	
WATER EFFICIENCY AND CONSERVATION	
INDOOR WATER USE (5.303)	
<p>Meters. Separate meters shall be installed for the uses described in Sections 503.1.1 through 503.1.3.</p> <p>Buildings in excess of 50,000 square feet. Separate submeters shall be installed as follows:</p> <ol style="list-style-type: none"> 1. For each individual leased, rented, or other tenant space within the building projected to consume more than 100 gal/day. 2. For spaces used for laundry or cleaners, restaurant or food service, medical or dental office, laboratory, or beauty salon or barber shop projected to consume more than 100 gal/day. <p>Excess consumption. Any building within a project or space within a building that is projected to consume more than 1,000 gal/day.</p>	
<p>% Savings. A schedule of plumbing fixtures and fixture fitting that will reduce the overall use of potable water within the building by 20% shall be provided. (Calculate savings by Water Use Worksheets.)</p> <p>Multiple showerheads serving one shower. When single shower fixtures are served by more than one showerhead, the combined flow rate of all the showerheads shall not exceed the maximum flow rates specified in the 20% reduction column contained in Table 5.303.2.2 or the shower shall be designed to only allow one showerhead to be in operation at a time.</p>	
<p>Wastewater reduction. Each building shall reduce the generation of wastewater by one of the following methods:</p> <ol style="list-style-type: none"> 1. The installation of water-conserving fixtures or 2. Utilizing non-potable water systems 	

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<p>Plumbing Fixtures and Fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the requirements listed for each type in items listed on Table 5.303.6.</p> <ol style="list-style-type: none"> 1. Water closets (toilets) - flushometer type 2. Water closets (toilets) - tank type 3. Urinals 4. Public lavatory faucets 5. Public metering self-closing faucets 6. Residential bathroom lavatory sink faucets 7. Residential kitchen faucets 8. Residential shower heads 9. Single shower fixtures served by more than one showerhead 	
OUTDOOR WATER USE (5.304)	
<p>Water budget. A water budget shall be developed for landscape irrigation use.</p>	
<p>Outdoor potable water use. For new water service, separate meters or submeters shall be installed for indoor and outdoor potable water use for landscaped areas between 1000 square feet and 5000 square feet.</p>	
<p>Irrigation design. In new nonresidential projects with between 1000 and 2500 square feet of landscaped area (the level at which the MLO applies), install irrigation controllers and sensors which include the following criteria, and meet manufacturer's recommendations.</p> <p>5.304.3.1 Irrigation controllers. Automatic irrigation system controllers installed at the time of final inspection shall comply with the following:</p> <ol style="list-style-type: none"> 1. Controllers shall be weather- or soil moisture-based controllers that automatically adjust irrigation in response to changes in plants' needs as weather conditions change. 2. Weather-based controllers without integral rain sensors or communication systems that account for local rainfall shall have a separate wired or wireless rain sensor which connects or communicates with the controller(s). Soil moisture-based controllers are not required to have rain sensor input. 	
WEATHER RESISTANCE AND MOISTURE MANAGEMENT (5.407)	
<p>Weather protection. Provide a weather-resistant exterior wall and foundation envelope as required by California Building Code Section 1403.2 and California Energy Code Section 150, manufacturer's installation instructions, or local ordinance, whichever is more stringent.</p>	
<p>Moisture control. Employ moisture control measures by the following methods;</p> <p>Sprinklers. Prevent irrigation spray on structures.</p> <p>Entries and openings. Design exterior entries and openings to prevent water intrusion into buildings.</p>	
CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING (5.408)	
<p>A minimum of 60% of the construction waste generated at the site is diverted to recycle or salvage. This is achieved either by using City pre-certified landfills or implementation of a waste management plan. Waste management plan shall be pre-approved by Environmental Services Department.</p>	
<p>100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled.</p>	

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BUILDING MAINTENANCE AND OPERATION (5.410)	
<p>Recycling by occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of non-hazardous materials for recycling.</p>	
<p>Commissioning. For new buildings 10,000 square feet and over, building commissioning for all building systems covered by T24, Part 6, process systems, and renewable energy systems shall be included in the design and construction processes of the building project. Commissioning requirements shall include items listed in 5.410.2.</p> <p>Owner's Project Requirements (OPR). Documented before the design phase of the project begins the OPR shall include items listed in 5.410.4.</p> <p>Basis of Design (BOD). A written explanation of how the design of the building systems meets the OPR shall be completed at the design phase of the building project and updated periodically to cover the systems listed in 5.410.2.2.</p> <p>Commissioning plan. A commissioning plan describing how the project will be commissioned shall be started during the design phase of the building project and shall include items listed in 5.410.2.3.</p> <p>Functional performance testing shall demonstrate the correct installation and operation of each component, system, and system-to-system interface in accordance with the approved plans and specifications.</p> <p>Documentation and training. A Systems Manual and Systems Operations Training are required.</p> <p>Systems manual. The Systems Manual shall be delivered to the building owner or representative and facilities operator and shall include the items listed in 5.410.2.5.1.</p> <p>Systems operations training. The training of the appropriate maintenance staff for each equipment type and/or system shall include items listed in 5.410.2.5.2.</p> <p>Commissioning report. A complete report of commissioning process activities undertaken through the design, construction and reporting recommendations for post-construction phases of the building project shall be completed and provided to the owner or representative.</p>	
<p>Testing and adjusting. Testing and adjusting of systems shall be required for buildings less than 10,000 square feet.</p> <p>Systems. Develop a written plan of procedures for testing and adjusting systems. Systems to be included for testing and adjusting shall include, as applicable to the project, the systems listed in 5.410.3.2.</p> <p>Procedures. Perform testing and adjusting procedures in accordance with industry best practices and applicable national standards on each system.</p> <p>HVAC balancing. Before a new space-conditioning system serving a building or space is operated for normal use, the system should be balanced in accordance with the procedures defined by national standards listed in 5.410.3.3.1.</p> <p>Reporting. After completion of testing, adjusting and balancing, provide a final report of testing signed by the individual responsible for performing these services.</p> <p>Operation and maintenance manual. Provide the building owner with detailed operating and maintenance instructions and copies of guaranties/warranties for each system prior to final inspection.</p> <p>Inspections and reports. Include a copy of all inspection verifications and reports required by the enforcing agency.</p>	

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ENVIRONMENTAL QUALITY	
POLLUTANT CONTROL (5.504)	
Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation, or during storage on the construction site and until final startup if the heating and cooling equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheet metal or reduce the amount of dust or debris which may collect in the system.	
Finish material pollutant control. Finish materials shall comply with Sections 5.504.4.1 through 5.504.4.4. Adhesives, sealants, caulks. Adhesives and sealants used on the project shall meet the requirements of the following standards. <ol style="list-style-type: none"> 1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable, or SCAQMD Rule 1168 VOC limits, as shown in Tables 5.504.4.1 and 5.504.4.2. 2. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17, commencing with Section 94507. 	
Paints and coatings. Architectural paints and coatings shall comply with Table 5.504.4.2 unless more stringent local limits apply. Aerosol Paints and Coatings. Aerosol paints and coatings shall meet the Product-Weighted MIR Limits for ROC in section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances (CCR, Title 17, Section 94520 et seq). Verification. Verification of compliance with this section shall be provided at the request of the enforcing agency. Carpet systems. All carpet cushion installed in the building interior shall meet the testing and product requirements of one of the standards listed in 5.504.4.4. Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute Green Label program. Carpet adhesive. All carpet adhesive shall meet the requirements of Table 804.4.1. Composite wood products. Hardware plywood, particleboard, and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified in Table 5.504.4. Documentation. Verification of compliance with this section shall be provided as requested by the enforcing agency. Documentation shall include at least one of the following: <ol style="list-style-type: none"> 1. Product certifications and specifications. 2. Chain of custody certifications. 3. Other methods acceptable to the enforcing agency. 	
Resilient flooring systems. Comply with the VOC-emission limits defined in the 2009 CHPS criteria and listed on its Low-emitting Materials List (or Product Registry), or certified under the FloorScore program of the Resilient Floor Covering Institute. Verification of compliance. Documentation shall be provided verifying that resilient flooring materials meet the pollutant emission limits.	
Hazardous particulates and chemical pollutants. Minimize and control pollutant entry into buildings and cross-contamination of regularly occupied areas. Filters. In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air prior to occupancy that provides at least a MERV of 8.	